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International Specialists in the Environment

**PREDECISIONAL:  
NOT FOR RELEASE**EPA Region 10  
Deemed ReleasableMEMORANDUM

DATE: August 19, 1988

TO: John Osborn, FIT-RPO, USEPA, Region X

THRU: <sup>cd</sup> Jeffrey Villnow, FIT-OM, E&E, SeattleFROM: <sup>lee</sup> John J. Roland, FIT-PM, E&E, SeattleSUBJ: Site Inspection Reassessment/  
Preliminary HRS Score for  
Spokane Steel Foundry  
Spokane, WashingtonREF: TDD F10-8806-08  
PAN F10Z062SACC: William Glasser, HWD-SM, USEPA, Region X  
David Bennett, HWD, USEPA, Region X

A file review for the Spokane Steel Foundry Site has been conducted to assess the previously conducted Site Inspection (SI) and to develop a preliminary HRS score. Using the file and additional information, a preliminary HRS score of 25.43 was calculated. An observed release to air could increase the score to 29.8. The following information was used to derive the score:

- o The site is a steel foundry that has been in operation since 1965. Emission dusts and waste sand from the induction furnace and metals sanding operations are the only wastes generated at the site. Four baghouses are used to collect the waste. The emission dust has been classified as a dangerous waste because it failed the Department of Ecology 96-Hour Static Basic Acute Fish Toxicity Test. The emission dust contains arsenic, barium, cadmium, and lead.
- o From 1965 to 1976 the induction furnace emission dust was vented to the atmosphere. From 1976 to 1980 it was disposed of at the Old Inland Pit and the Mica Landfills. From 1980 to the present it has been recycled or disposed of at the Mica Landfill. After the dust is collected in the baghouse it is put into 55-gallon drums. Piles of dust were observed in the baghouse area during a site inspection performed by E&E during August, 1984.



SI Reassessment/Preliminary HRS Score for  
Spokane Steel Foundry  
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- o The site is located over the Spokane Valley-Rathdrum Prairie Aquifer, a sole source aquifer. The City of Spokane municipal wells are located within three miles of the site and service greater than 10,000 people.
- o The nearest surface water is the Spokane River, which is used for recreation.

Assumptions used to derive the score include:

- o no observed release to ground water, surface water, or air; and
- o no sensitive environments exist within three miles of the site.

Additional information may result in a higher HRS score. There is no documentation of the accessibility to the site and piles of baghouse dust. Because of this potential for increase in score based on direct contact routes an investigation which probably should include air sampling may be warranted. The potential for an air release is the only additional HRS II concern.

Priority: medium.

JJR:rls

Facility name: Spolane Steel Foundry

Location: SPOKANE, WA.

EPA Region: 10

Person(s) in charge of the facility: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name of Reviewer: ROLAND Date: 8/15/93

General description of the facility:  
 (For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

STEEL FOUNDRY - EMISSION DUST + SANDING

GRIT ~~FOR~~ PREVIOUSLY VENTED - CURRENTLY

BAGGED + DRUMMED + DISPOSED OF OFF SITE

WASTE IS CLASSIFIED DANGEROUS - SITE OVER

SOLE SOURCE AQUIFER, MUNICIPAL WELLS

WITHIN THREE MILES.

Scores:  $S_M = 25.43$  ( $S_{gw} = 43.84$   $S_{sw} = 3.72$   $S_a = 0$ )

SFE =

SDC =

FIGURE 1  
HRS COVER SHEET

Ground Water Route Work Sheet						
Rating Factor	Assigned Value (Circle One)	Multi- plier	Score	Max. Score	Ref. (Section)	
<b>1</b> Observed Release	0      45	1		45	3.1	
If observed release is given a score of 45, proceed to line <b>4</b> . If observed release is given a score of 0, proceed to line <b>2</b> .						
<b>2</b> Route Characteristics					3.2	
70' Depth to Aquifer of Concern	0 1 <b>2</b> 3	2	4	6		
Net Precipitation	<b>0</b> 1 2 3	1	0	3		
Permeability of the Unsaturated Zone	0 1 2 <b>3</b>	1	3	3		
Physical State	0 1 <b>2</b> 3	1	2	3		
Total Route Characteristics Score			9	15		
<b>3</b> Containment	0 1 2 <b>3</b>	1	3	3	3.3	
<b>4</b> Waste Characteristics					3.4	
Toxicity/Persistence	0 3 6 9 12 15 <b>18</b>	1	18	18		
Hazardous Waste Quantity	0 <b>1</b> 2 3 4 5 6 7 8	1	1	8		
Total Waste Characteristics Score			19	26		
<b>5</b> Targets					3.5	
Municipal & Industrial Ground Water Use	0 1 2 <b>3</b>	3	9	9		
Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 <b>40</b>	1	40	40		
Total Targets Score			49	49		
<b>6</b> If line <b>1</b> is 45, multiply <b>1</b> x <b>4</b> x <b>5</b> If line <b>1</b> is 0, multiply <b>2</b> x <b>3</b> x <b>4</b> x <b>5</b>			25137	57.330		
<b>7</b> Divide line <b>6</b> by 57.330 and multiply by 100			S <sub>GW</sub> = 43.84			

FIGURE 2  
GROUND WATER ROUTE WORK SHEET

operated since 1965  
disposed of sewage sludge - put bags May 1969  
what about 1965-68

no GW sample

sole source aquifer  
Spokane Valley  
24-38' deep  
fine sand & gravel  
fine powder

powder dust was  
observed on the ground  
under the baghouse

Furnace Baghouse Dust  
2061 Barium lead, cadmium  
waste disposed of off site at old Island Port  
unknown quantity at site most waste  
disposed of off site

drinking & irrigation  
+ industrial  
Spokane Production  
Plant with less than 2000  
greater than 10,000  
city of Spokane with w/in 3 miles

Surface Water Route Work Sheet						
Rating Factor	Assigned Value (Circle One)	Multi- plier	Score	Max. Score	Ref. (Section)	
<b>1</b> Observed Release	0 45	1		45	4.1	
If observed release is given a value of 45, proceed to line <b>4</b> . If observed release is given a value of 0, proceed to line <b>2</b> .						
<b>2</b> Route Characteristics					4.2	
Facility Slope and Intervening Terrain	0 1 2 3	1	0	3		
1-yr. 24-hr. Rainfall	0 1 2 3	1	1	3		
Distance to Nearest Surface Water	0 1 2 3	2	4	6		
Physical State	0 1 2 3	1	2	3		
Total Route Characteristics Score			7	15		
<b>3</b> Containment	0 1 2 3	1	3	3	4.3	
<b>4</b> Waste Characteristics					4.4	
Toxicity/Persistence	0 3 6 9 12 15 18	1	18	18		
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1	1	8		
Total Waste Characteristics Score			19	26		
<b>5</b> Targets					4.5	
Surface Water Use	0 1 2 3	3	6	9		
Distance to a Sensitive Environment	0 1 2 3	2	0	6		
Population Served/Distance to Water Intake Downstream	0 4 6 8 10 12 16 18 20 24 30 32 35 40	1	0	40		
Total Targets Score			6	55		
<b>6</b> If line <b>1</b> is 45, multiply <b>1</b> x <b>4</b> x <b>5</b> If line <b>1</b> is 0, multiply <b>2</b> x <b>3</b> x <b>4</b> x <b>5</b>			2394	64,350		
<b>7</b> Divide line <b>6</b> by 64,350 and multiply by 100			S <sub>sw</sub> = 3.72			

**FIGURE 7**  
**SURFACE WATER ROUTE WORK SHEET**

no air sampling performed

Air Route Work Sheet						
Rating Factor	Assigned Value (Circle One)		Multi-plier	Score	Max. Score	Ref. Section
<b>1</b> Observed Release	0	45	1		45	5.1
Date and Location:						
Sampling Protocol:						
If line <b>1</b> is 0, the $S_a = 0$ . Enter on line <b>5</b> . If line <b>1</b> is 45, then proceed to line <b>2</b> .						
<b>2</b> Waste Characteristics						5.2
Reactivity and Incompatibility	(0) 1 2 3		1	0	3	
Toxicity	0 1 2 (3)		3	9	9	
Hazardous Waste Quantity	0 (1) 2 3 4 5 6 7 8		1	1	8	
Total Waste Characteristics Score				10	20	
<b>3</b> Targets						5.3
Population Within 4-Mile Radius	0 9 12 15 (18) 21 24 27 30		1	18	30	
Distance to Sensitive Environment	(0) 1 2 3		2	0	6	
Land Use	0 1 2 (3)		1	3	3	
Total Targets Score				21	39	
<b>4</b> Multiply <b>1</b> x <b>2</b> x <b>3</b>					35.100	
<b>5</b> Divide line <b>4</b> by 35.100 and multiply by 100				$S_a = 26.92$		

assume release

assume  
pg 0-4 miles  
3,000 - 10,000  
= 19

pg 0-1 = 229 = 15  
pg 0-1/2 = 29 = 15  
pg 0-1/4 = 5 = 14

4/4 mile to commercial industrial

FIGURE 9  
AIR ROUTE WORK SHEET

$S_m$  if air score = 29.8

	s	s <sup>2</sup>
Groundwater Route Score (S <sub>gw</sub> )	43.84	1922.48
Surface Water Route Score (S <sub>sw</sub> )	3.72	13.84
Air Route Score (S <sub>a</sub> )	0	0
$S_{gw}^2 + S_{sw}^2 + S_a^2$		1936.33
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		44.00
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		25.43

FIGURE 10  
WORKSHEET FOR COMPUTING S<sub>M</sub>